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AIR FORCE HUMAN RESOURCES LABORATORY

RELATIONSHIPS BETWEEN PERFORMANCE ON THE VOCATIONAL INTEREST–CAREER EXAMINATION AND REPORTED JOB SATISFACTION

By

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AIR FORCE SYSTEMS COMMAND
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This interim report was submitted by Personnel Research Division, Air Force Human Resources Laboratory, Lackland Air Force Base, Texas 78236, under project 7719, with HQ Air Force Human Resources Laboratory (AFSC), Brooks Air Force Base, Texas 78235. Mr. William E. Alley, Personnel Research Division, was the project monitor.

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This report describes the validation of an Air Force vocational interest inventory in the enlisted force. The Vocational Interest–Career Examination (VOICE) was administered to 18,000 recruits during basic military training. After approximately one year on the job, they were resurveyed to determine the extent to which they were satisfied with their respective occupational assignments. Individual aptitude variables from the Armed Services Vocational Aptitude Battery (ASVAB) served as control measures. Multiple regression analyses were used to characterize relationships between entry-level interests and eventual job satisfaction and to explore moderating effects due to sex and aptitude scores. Results of analyses indicated that the VOICE subscales provided reliable and significant prediction of job satisfaction for both males and females. Recommendations for operational implementation of the procedure were discussed.

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SUMMARY

Problem

The Air Force, like most large employers, has a vested interest in obtaining the fullest possible utilization of its personnel resources. A key element of that objective requires that incoming recruits be assigned to appropriate jobs on the basis of both personal preferences and expected capabilities for successful performance. Present job placement procedures rely primarily on the results of individual aptitude testing, job-entry requirements, and the needs of the service. An applicant's occupational preferences with respect to available jobs are typically assessed on a more informal basis during discussions with Air Force recruiting or counseling personnel. In view of the fact that people entering service have little prior experience in the civilian job market, they understandably have a difficult time relating personal likes and dislikes to the complex Air Force classification system. And, while they may be given a choice among several occupations, these decisions are often made under less than optimal conditions. The later consequences of misjudging whether or not a person will be satisfied in a career can be costly in terms of retraining requirements, inadequate job performance, and early separation from service.

The purpose of this research was to develop improved job placement techniques based on vocational interest data obtained upon entry into service. A long-term study was conducted to determine whether standardized interest measures were predictive of later satisfaction on the job. The work was conducted with a view toward practical application of results during initial counseling and job placement of enlisted personnel. Special attention was given to such factors as sex and aptitude as potential moderating influences.

Approach

During basic training, 18,000 Air Force recruits were administered the Vocational Interest–Career Examination (VOICE), a multi-purpose vocational interest inventory developed under contract with the Educational Testing Service. The inventory contains 400 items presented in a Like-Indifferent-Dislike format. The 45-minute assessment yields 18 homogeneous interest scores, each representing relatively independent interest dimensions. These scales are based on factor-analytic studies of item responses and are equally applicable to both males and females. They include Office Administration, Electronics, Heavy Construction, Science, Outdoors, Medical Service, Aesthetics, Mechanics, Food Service, Law Enforcement, Audiographics, Mathematics, Agriculture, Teacher/Counseling, Marksman, Craftsman, Drafting, and Automated Data Processing.

Percentile scores on the Armed Services Vocational Aptitude Battery (ASVAB) were also obtained for the analysis. The ASVAB is a 2-hour Department of Defense (DoD) test used for operational selection and classification. As used by the Air Force, it yields scores predictive of training success in four general areas: Administrative, Electronics, General, and Mechanical.

After a period of 8-12 months on the job, the entire sample was surveyed by direct mail to determine (a) their current Air Force specialty (AFSC) and (b) whether or not they were satisfied with that area of assignment. The response rate was 70% overall. Excluding unusable cases, the sample was comprised of 7,521 males and 3,767 females (N = 11,288).

For purposes of establishing a common reference system across services, the AFSCs were grouped into 20 job clusters as defined in the 1975 DoD Occupational Conversion Table. Included among these were (10) Radio/Radar Equipment Repair; (1X) Miscellaneous Electronic Equipment Repair; (22) Radar and Air Traffic Control; (2X) Miscellaneous Communications and Intelligence Specialties; (30) Medical Care; (3X) Miscellaneous Medical and Dental Specialties; (4X) Technical and Allied Specialties; (51) Administration; (5X) Miscellaneous Administrative Specialties and Clerks; (600) General Aircraft Mechanic; (601) Aircraft Engine Mechanic; (602) Aircraft Accessories Mechanic; (64) Armaments and Munitions; (6X) General Mechanic; (72) Utilities Maintenance; (78) Fire Fighters; (82) Material Receipt, Storage, and Issue; (83a) Security Police; (83b) Law Enforcement; and (8X) Miscellaneous Services and Supply.

Descriptive statistics (means and standard deviations) were used to characterize the interests, aptitudes, and job satisfaction of the sample by sex and DoD occupational group. Correlation and

regression analyses were performed within occupations to evaluate the effects of interests and aptitudes on subsequent satisfaction with assignment. Potential sex differences were also evaluated in the procedure.

Results

Results indicated that, with few exceptions, the VOICE subscales are useful for predicting job satisfaction within a majority of DoD occupations. The relationships between interests at time of entry and subsequent satisfaction were statistically significant when analyzed apart from other factors and when baseline effects due to aptitude and sex were held constant. For the most part, functional relationships between interests and satisfaction were virtually identical for male and female recruits. No evidence was found that aptitude scores as measured by the ASVAB were in any way indicative of later job satisfaction.

Conclusions

Based on these analyses, it is recommended that the VOICE be considered as a possible adjunct to the operational testing program. Standardized measures of vocational interest would contribute significantly to the process of evaluating alternative areas of assignment for specific individuals. The implementation of job placement procedures based on the VOICE would yield benefits for the enlistee, in terms of increased job satisfaction, as well as for the service which could expect higher productivity, fewer requirements for retraining, and improved job tenure in the enlisted force.

PREFACE

This research was conducted under project 7719, Personnel Selection and Retention for Optimal Productivity; task 771909, Development and Validation of Specialized Procedures to Improve Personnel Classification and Assignment. The investigation was made in response to RPR 74-24, Development of Improved Techniques for Estimation Person-Job Compatability. Maj Wayne S. Sellman (AFMPC/DPMY) served as requirements manager for the project. The authors would like to express their appreciation to Mr. James Friemann, Mr. Henry Clark, and Mr. Charles Greenway of the Computational Sciences Division (AFHRL) for the excellent statistical and programming support provided during the course of the study.

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RELATIONSHIPS BETWEEN PERFORMANCE ON THE VOCATIONAL INTEREST–CAREER EXAMINATION AND REPORTED JOB SATISFACTION

I. INTRODUCTION

The present Air Force selection and classification system relies primarily on individual aptitude assessment as a basis for making occupational assignments. An applicant's vocational interests, with respect to available jobs, are typically considered on a more informal basis. During initial job placement interviews, the first priority is to establish the qualifications of the applicant for all jobs in which there are potential openings. Indications of assignment preference are then made after considering specific job titles and descriptions. During the course of selecting a career field, the applicant is at some disadvantage because of difficulty in relating personal inclinations to the classes of activities typically performed on an Air Force job. This is particularly true if the prospective enlistee has had little prior experience in the civilian job market. As a result, specific and far-reaching vocational commitments are sometimes made under less than optimal conditions. The consequences of selecting a potentially dissatisfying career have direct implications for later job performance and retention.

In 1974, the Air Force Military Personnel Center established a requirement to develop improved job placement techniques which could be directed toward improving career satisfaction in the enlisted force (RPR 74-24). As part of this program, an empirical study was commissioned to examine the feasibility of using measured vocational interests as an adjunct to the career counseling program.

Although vocational interest inventories have been widely used for these purposes in the civilian community, the utility of the procedure is based primarily on its effectiveness in predicting vocational choice behavior (Clark, 1961; Kuder, 1942; Neumann & Abrahams, 1975; Strong, 1943). The evidence that interest measures can also be used to estimate the degree of satisfaction resulting from such choices has been less conclusive. (See Buros, 1975, for a recent review of this literature.) Yet both Strong (1943) and Kuder (1970) have emphasized the importance of occupational satisfaction as the preferred basis for validating these instruments. In studies employing concurrent measurement techniques, it has been generally found that moderate relationships exist between interests and job satisfaction when both attributes are measured at the same point in time (Dann, 1974; Echternacht, Reilly, & McCaffrey, 1973; Perry, 1955; Schwebel, 1950). Results from longitudinal studies, however, have been much less consistent in these findings. While Lipsett and Wilson (1954), Strong (1955), Kuder (1966), and Lau and Abrahams (1972) report some success in predicting job-satisfaction over time, Carp (1958), Schweiker (1959), and Schletzer (1966) failed to detect any significant relationships between measured interests at Time 1 and job satisfaction criteria at Time 2.

The present study was undertaken to provide more definitive guidelines on the use of vocational interests inventories for job placement. Specific attention was directed at evaluating (a) empirical relationships between vocational interests and eventual satisfaction on the job, (b) potential moderating influences due to sex and aptitude level, and (c) differential application of specific interest and aptitude measures within occupational specialties.

II. APPROACH

The study was conducted in two phases. During basic military training (Phase I), 18,207 Air Force recruits were administered the Vocational Interest–Career Examination (VOICE) by testing personnel at the Personnel Research Division, Air Force Human Resources Laboratory (AFHRL), Lackland AFB, Texas. The VOICE is a 400-item vocational interest inventory developed for the Air Force by the Educational Testing Service (Echternacht, et al., 1973). Item responses to the VOICE, coded in a standard L-I-D (like-indifferent-dislike) format, were grouped into 18 homogeneous subscales representing relatively independent dimensions of vocational interest (Alley, Berberich, & Wilbourn, 1976). These subscales, shown in Table 1, are based on factor-analytic studies of VOICE item responses from large samples of

Table 1. **Subscales for the Vocational Interest-Career Examination (VOICE)**

Scale	No of Items	Score Range[a]	Males (N = 10,035) $\bar{x}$	Males SD	Males α^b	Females (N = 12,710) $\bar{x}$	Females SD	Females α^b
Office Administration (OA)	20	20–60	32.32	10.71	.95	37.85	11.46	.95
Electronics (EL)	20	20–60	40.72	12.78	.96	32.50	12.15	.96
Heavy Construction (HC)	20	20–60	34.41	9.99	.93	27.49	8.37	.93
Science (SC)	20	20–60	38.02	12.69	.96	38.21	12.81	.96
Outdoors (OD)	15	15–45	36.47	6.88	.88	36.67	5.76	.83
Medical Service (MS)	20	20–60	33.38	10.55	.94	40.81	11.47	.94
Aesthetics (AE)	15	15–45	26.10	7.74	.90	31.78	7.36	.88
Mechanics (ME)	15	15–45	31.65	8.98	.94	25.10	8.69	.94
Food Service (FS)	15	15–45	21.36	6.30	.90	26.72	7.40	.90
Law Enforcement (LE)	15	15–45	29.22	7.30	.88	26.90	6.89	.86
Audiographics (AU)	10	10–30	20.76	5.79	.90	22.26	5.45	.88
Mathematics (MA)	12	12–36	21.50	7.37	.93	22.06	7.44	.92
Agriculture (AG)	15	15–45	28.00	7.15	.88	31.04	8.00	.90
Teacher/Counseling (TC)	10	10–30	19.32	5.73	.89	22.22	5.31	.86
Marksman (MK)	7	7–21	15.38	4.28	.86	11.54	4.22	.86
Craftman (CF)	7	7–21	9.88	2.95	.79	11.22	2.96	.72
Drafting (DF)	7	7–21	13.25	4.20	.85	13.08	4.28	.86
Automated Data Processing (DP)	7	7–21	13.76	4.49	.89	13.86	4.39	.88

[a]Individual items are scored 3 = Like; 2 = Indifferent and 1 = Dislike. Missing or otherwise invalid responses are recoded to a value of 2.

[b]Alpha coefficient of internal consistency (Cronbach, 1951).

recruits and are applicable to both males and females. In addition to the vocational interest data, percentile scores from the Armed Services Vocational Aptitude Battery (ASVAB) were obtained for each subject from computerized record files maintained by the Computational Sciences Division, AFHRL, Lackland AFB, Texas. The ASVAB is a differential aptitude test used by the Department of Defense (DoD) for selection and classification purposes. The two-hour battery, as used by the Air Force, yields four standard aptitude indexes (AI): Administrative, Electronics, General, and Mechanical.

During Phase II, the entire sample was surveyed after 8- to 12-months on the job to determine (a) the Air Force occupation to which they were eventually assigned and (b) how well satisfied they were with the assignment. Air Force occupations are identified by five-digit specialty codes (AFSC) which distinguish between career fields and between various skill levels within fields. For purposes of this study, the AFSC's were grouped into 20 job clusters as defined in the DoD Occupational Conversion Table (U.S. Dept of Defense, 1975). A brief description of these categories is shown in Table 2. Complete specifications for the grouping procedure may be found in the Appendix (Table A1).

Satisfaction with assigned AFSC was obtained from responses to the following survey item:

How satisfied are you with your present AFSC? In the analysis, responses to the item were coded 800 = very satisfied, 600 = moderately satisfied, 400 = moderately dissatisfied, and 200 = very dissatisfied. The theoretical midpoint on the scale was a score of 500 for grouped data.

The job satisfaction survey was conducted by direct mail to participating individuals. Non-respondents to the first inquiry were followed up once after a four-month interval. The return rate was 70 percent overall. Completed surveys were then matched with active duty files to obtain percentile scores from the ASVAB. Excluding non-matching or incomplete records, there were 7,521 valid cases in the male sample and 3,767 in the female sample (N = 11,288). The sample distribution across occupational groups is also shown in Table 2.

Table 2. **DoD Occupational Groups and Sample Distribution**

Occupational Group		Sample		
Code[a]	Description	Male	Female	Total
10	Radio/Radar Equipment Repair	472	175	647
1X	Miscellaneous Electronic Equipment Repair	466	165	631
22	Radar and Air Traffic Control	227	76	303
2X	Miscellaneous Communications and Intelligence Specialties	241	148	389
30	Medical Care	257	226	483
3X	Miscellaneous Medical and Dental Specialties	121	86	207
4X	Technical and Allied Specialties	169	103	272
51	Administration	855	922	1,777
5X	Miscellaneous Administrative Specialties and Clerks	596	530	1,126
600	General Aircraft Mechanic	886	480	1,366
601	Aircraft Engine Mechanic	294	117	411
602	Aircraft Accessories Mechanic	417	178	595
64	Armaments and Munitions	415	–	415
6X	General Mechanic	296	69	365
72	Utilities Maintenance	134	43	177
78	Fire Fighters	162	–	162
82	Material Receipt, Storage and Issue	422	133	555
83a	Security Police	651	–	651
83b	Law Enforcement	202	149	351
8X	Miscellaneous Services and Supply	238	167	405
	Total	7,521	3,767	11,288

[a]The designations 1X, 2X etc. include all other specialties not specifically referenced by two- or three digit codes.
(–) Denotes occupations restricted to male entrants.

Means and standard deviations for each DoD occupational cluster were obtained for the VOICE subscales, the ASVAB composites, and the satisfaction criterion. To investigate the extent of the predictive relationships between the interest and aptitude measures and later job satisfaction, multiple regression analyses (Ward & Jennings, 1973) were performed within each DoD occupation. In this procedure, the errors of prediction associated with using a given set of measures (full model) are compared with the errors associated with a reduced set (restricted model). The restricted models are defined so as to represent the test of a specific null hypothesis for which F statistics and associated probability values can be computed.

Since the number of these comparisons within each job cluster was quite large, selected system-wide F tests were first conducted to control for the possibility of detecting spurious relationships. In these comparisons, the effects of interests and aptitude on job satisfaction were tested simultaneously for all career fields combined. The contribution of the following variables were tested in sequence:

1. Any effects attributable to sex category, DoD group membership, VOICE or ASVAB variables weighted separately for each sex and occupational group. (H1)

2. Specific effects due to sex and/or DoD group membership. (H2) (Note: This test established a baseline for evaluating the unique contributions of interests and aptitude in subsequent comparisons.)

3. Specific effects attributable to *ASVAB* performance controlling for effects due to sex and/or DoD group membership. (H3)

4. Specific effects attributable to *VOICE* subscale performance controlling for effects due to sex and/or DoD group membership. (H4)

5. Specific effects attributable to *ASVAB* performance controlling for effects due to sex, DoD group membership, and/or VOICE performance. (H5)

6. Specific effects attributable to *VOICE* performance controlling for effects due to sex, DoD group membership and/or ASVAB performance. (H6)

Based on the results of these tests, additional analyses were performed within specific subgroups to further clarify the role of pre-service interests and aptitudes in determining later job satisfaction. For male and female subgroups separately, assessments were made of the independent contributions of the test battery with and without distinctions between occupational groups. And within each of the 20 DoD occupational groups, assessments were made of the independent contribution of the test battery with and without distinctions based on sex. Summary documentation was obtained in the form of zero-order correlations of each separate predictor variable with the satisfaction criterion, multiple correlations, F ratios, and associated probabilities. A full description of the prediction models and specific comparisons generated in these analyses is shown in the appendix (Table A2).

III. RESULTS

Sample Description

Scale means and standard deviations by occupational specialty are presented in the appendix separately for the male and female samples (Tables A3 and A4). Comparisons between occupations on both the VOICE and ASVAB indicate that the persons eventually assigned to these career fields differ in many respects from the total (unselected) population also shown in the tables. The effects of primary selection into these occupations for the male sample can be noted in the ASVAB scores shown in Table A3. Minimum entry requirements generally vary by aptitude (M, A, G, or E) and within aptitude, by percentile level. In the 10 and 1X careers for example, an electronics score at the 80th percentile is required for entry into a majority of the component AFSCs. The mean electronic AIs for males in the selected groups (84 and 82, respectively) were approximately one standard deviation higher than the general population value of 64. Standard deviations of 7.9 and 9.5 for these measures are also considerably less than the unrestricted estimate of 18.0. Among females, similar restrictions based on aptitude may be noted although to a somewhat lesser degree (Table A4).

Evidence that scores on the VOICE subscales were related to eventual assignment may also be seen in these tables. Again using the electronics career fields as an example, it can be noted that males assigned to the 10 and 1X specialties had a mean score of 50 on the VOICE *Electronics* subscale as opposed to an overall group mean of 40 for the total population. The female means in these specialties were also 10 points higher than the norm.

Similar correspondences between pre-service interests and eventual assignment may also be seen in the medical (30 and 3X), administrative (51 and 5X) and mechanical (600 through 6X) careers where characteristic elevations in the *Medical, Office Administration,* and *Mechanical* subscales of the VOICE were noted in both samples.

While these differences are interesting in themselves (and provide some logical support for assignment based on the subscales), the effect of primary selection, for purposes of this study, is to restrict the range of observed scores to the point where validity indices may be considerably underestimated (Guilford, 1965). It will be important to bear this point in mind during later discussions since no attempts have been made to correct the reported validities for restriction of range effects.

Job Satisfaction

Subsample means and standard deviations on the job satisfaction variable for each of the 20 specialties are shown in Table 3. A plot of the mean values (Figure 1) shows that the highest degree of satisfaction with assignment among male respondents was reported in electronics repair (10), medical technician (30 and 3X), technical and allied specialties (4X), utilities maintenance (72), and in the fire fighting career field (78). Least satisfied were respondents from the armaments and munitions career field (64), materiel receipt, storage, and issue (82), and security police (83a). In the female sample, somewhat less satisfaction was noted in electronics repair (10) and considerably less in the mechanical (600 through 6X) and utilities maintenance (72) career fields. Evidently, women as a group are experiencing some

Table 3. **Job Satisfaction Means and Standard Deviations by Sex and DoD Occupational Group[a]**

Occupational Group		Male		Female	
Code	Description	$\bar{X}$	SD	$\bar{X}$	SD
10	Radio/Radar Equipment Repair	640	147	584	181
1X	Miscellaneous Electronic Equipment Repair	588	181	587	187
22	Radar and Air Traffic Control	611	213	579	224
2X	Miscellaneous Communications and Intelligence Specialties	561	197	520	201
30	Medical Care	644	160	668	162
3X	Miscellaneous Medical and Dental Specialties	693	139	705	139
4X	Technical and Allied Specialties	644	188	660	160
51	Administration	556	190	583	190
5X	Miscellaneous Administrative Specialties and Clerks	593	187	582	183
600	General Aircraft Mechanic	548	191	491	223
601	Aircraft Engine Mechanic	615	171	523	217
602	Aircraft Accessories Mechanic	526	184	465	219
64	Armaments and Munitions	434	198	–	–
6X	General Mechanic	583	197	516	188
72	Utilities Maintenance	645	179	530	206
78	Fire Fighters	653	188	–	–
82	Material Receipt, Storage and Issue	452	195	484	197
83a	Security Police	440	208	–	–
83b	Law Enforcement	610	197	605	199
8X	Miscellaneous Services and Supply	524	198	472	210

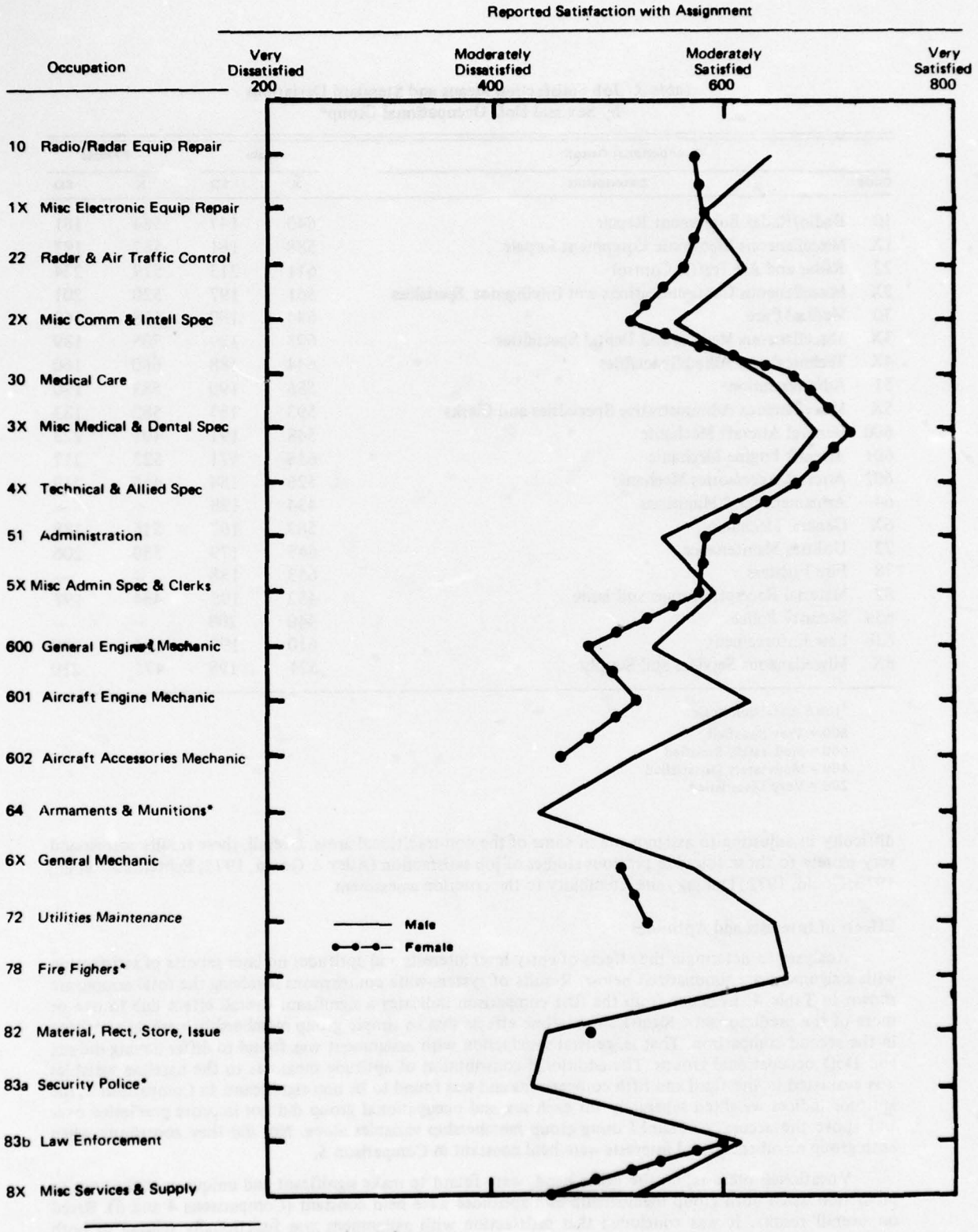
[a]Job Satisfaction Scale:
800 = Very Satisfied
600 = Moderately Satisfied
400 = Moderately Dissatisfied
200 = Very Dissatisfied

difficulty in adjusting to assignments in some of the non-traditional areas. Overall, these results correspond very closely to those found in previous studies of job satisfaction (Alley & Gould, 1975; Echternacht et al., 1973; Gould, 1972) lending some credibility to the criterion assessment.

Effects of Interests and Aptitudes

Analyses to determine the effects of entry-level interests and aptitudes on later reports of satisfaction with assignment are summarized below. Results of system-wide comparisons involving the total sample are shown in Table 4. Evidence from the first comparison indicates a significant overall effect due to one or more of the predictor sets. Significant baseline effects due to simple group membership were documented in the second comparison. That is, general satisfaction with assignment was found to differ among the sex and DoD occupational groups. The additional contribution of aptitude measures to the baseline variables was evaluated in the third and fifth comparisons and was found to be non-significant. In Comparison 3, the aptitude indices weighted separately for each sex and occupational group did not improve prediction over and above the accuracy obtained using group membership variables alone. Nor did they contribute when both group membership and interests were held constant in Comparison 5.

Vocational interests, on the other hand, were found to make significant and unique contributions to prediction when both group membership and aptitudes were held constant (Comparisons 4 and 6). Based on overall results, it was concluded that satisfaction with assignment was functionally related to both prior-service interests and group membership (sex and DoD occupation). No evidence was found that aptitudes influenced eventual satisfaction with assignment. In all subsequent analyses, the aptitude variables



*Denotes occupations restricted to male entrants.

Figure 1. **Plot of mean satisfaction scores by sex and occupational group.**

Table 4. **Results of System-Wide Regression Analyses**

Models		R^2				
Full	Restricted	Full	Restricted	d_{f1}	d_{f2}	F
(VOICE + ASVAB) x Group	Unit Vector	.2141	.0000	850	10437	3.35**
Group	Unit Vector	.1068	.0000	36	11251	37.37**
ASVAB x Group	Group	.1201	.1068	148	11103	1.13^{ns}
VOICE x Group	Group	.2027	.1068	666	10585	1.91**
(VOICE + ASVAB) x Group	VOICE x Group	.2141	.2027	148	10437	1.02^{ns}
(VOICE + ASVAB) x Group	ASVAB x Group	.2141	.1201	666	10437	1.87**

**Significant beyond the .01 level.

^{ns}Non-significant.

were eliminated from further consideration as a basis for predicting job satisfaction. Emphasis was directed instead at further clarification of vocational interest effects as modified by occupational group and sex category.

Results of Analyses Within Sex Groups

Separate analyses conducted within each of the male and female subgroups are shown in Table 5. The first comparison in each group tests the hypothesis that distinctions between DoD occupational groups were unnecessary for prediction purposes (i.e., that a common VOICE equation across all specialties would predict as well as separate equations for each specific occupation). In both the male and female samples, however, there was a significant loss in predictive accuracy by giving up DoD group designations. Subsequent tests for unique VOICE contributions yielded significant results for both male and female samples when variance attributable to DoD group membership was held constant.

Results of Analyses Within Occupational Groups

Results of analyses within specialties are shown in Table A5 and summarized in Table 6. In the first series of comparisons, the unique effects associated with sex are reported. These models tested the hypothesis that all of the coefficients in the male equations were equal to corresponding coefficients in the female equations within each specialty. As can be noted in Table 6, no unique sex differences in the equations were detected in 13 of the 17 career fields containing members of both sex. In these specialties, a common VOICE equation without sex distinctions yielded equivalent accuracy to that obtained with separate equations for both males and females. Exceptions to this trend were noted in the administrative (51), mechanical (600, 601), and utilities maintenance (72) career fields where the male and female equations were found to differ significantly.

The next series of comparisons was made to determine if the VOICE weights were significantly different from zero when holding the sex variable constant. In 15 of the 20 comparisons, significant prediction systems using the VOICE subscales were detected. Career fields in which satisfaction was not found to be related to pre-service interests included the 2X, 4X, 64, 72, and 78 career fields. In all other cases, moderate but highly significant relationships were found to exist between VOICE subscales and later satisfaction on the job. Viewed in terms of personnel, the non-significant career fields included roughly 13 percent of the total assignments examined while 87 percent fell within significant prediction systems.

The lack of significance associated with the utilities maintenance (72) and fire fighters (78) career fields may be partially attributable to the small samples available for analysis (N's = 177 and 162 respectively). In the case of the 2X (miscellaneous communications and intelligence) and 4X (technical and allied) specialties, where sufficient samples were obtained, the negative findings are more likely a function of including heterogeneous AFSCs within the two categories. There were no indications from the data which might suggest why satisfaction in the relatively large and homogeneous armaments (64) career field was largely unaccounted for by the VOICE subscales.

Table 5. **Results of Regression Analyses Within Sex Category**

	Test for Unique DoD Group Effect					Test for Unique VOICE Effect									
						DoD Effect Assumed to be Zero					Dod Effect Assumed to be Non-Zero				
	R^2					R^2					R^2				
Sex Group	Full VOICE x DoD	Restricted VOICE	d_{f1}	d_{f2}	F	Full VOICE	Restricted Unit Vector	d_{f1}	d_{f2}	F	Full VOICE x DoD	Restricted DoD	d_{f1}	d_{f2}	F
Males	.1890	.0142	361	7141	4.26**	.0142	.0000	18	7502	Na	.1890	.1098	360	7141	1.94**
Females	.2287	.0203	304	3444	3.06**	.0203	.0000	18	3748	Na	.2287	.0847	306	3444	2.10**

**Significant beyond the .01 level.

Na – not applicable based on initial tests indicating that DoD group effects were significant.

Table 6. **Summary of Regression Analyses Within Occupational Groups**

	Occupational Group	Multiple Correlation			Significance of Unique Contribution	
		Model 1: VOICE x Sex	Model 2: VOICE	Model 3: Sex	Sex	VOICE
10	Radio/Radar Equipment Repair	.33	.27	.16	ns	**
1X	Miscellaneous Electronic Equipment Repair	.32	.26	.00	ns	**
22	Radar and Air Traffic Control	.42	.32	.06	ns	*
2X	Miscellaneous Communications and Intelligence Specialties	.32	.26	.10	ns	ns
30	Medical Care	.36	.29	.07	ns	**
3X	Miscellaneous Medical and Dental Specialties	.47	.42	.04	ns	**
4X	Technical and Allied Specialties	.28	.22	.04	ns	ns
51	Administration	.32	.28	.07	**	**
5X	Miscellaneous Administrative Specialties and Clerks	.26	.23	.03	ns	**
600	General Aircraft Mechanic	.32	.28	.13	*	**
601	Aircraft Engine Mechanic	.48	.41	.22	*	**
602	Aircraft Accessories Mechanic	.39	.32	.14	ns	**
64	Armaments and Munitions	–	.21	–	–	ns
6X	General Mechanic	.37	.31	.14	ns	**
72	Utilities Maintenance	.54	.35	.26	*	ns
78	Fire Fighters	–	.37	–	–	ns
82	Material Receipt, Storage and Issue	.27	.23	.07	ns	*
83a	Security Police	–	.35	–	–	**
83b	Law Enforcement	.44	.36	.01	ns	**
8X	Miscellaneous Services and Supply	.38	.32	.12	ns	**

*Significant at the .05 level.

**Significant at the .01 level.

nsNon-significant.

(–) Denotes occupations restricted to male entrants.

Specific relationships between the subscales and satisfaction within specialties are summarized in Table 7. Included in the table are both zero-order correlations and raw-score regression weights associated with each scale. This information is extracted from Tables A6 and A7 in the appendix. The correlation values indicate the extent to which reported satisfaction in a given occupational cluster varied as a function of individual subscale scores. As noted in Table 7, there were positive relationships between satisfaction in the electronics field (10) and interest scores on the *Electronics, Heavy Construction, Law Enforcement, Marksman,* and *Automated Data Processing* subscales. On the other hand, satisfaction in electronics correlated negatively with pre-service interests in *Aesthetic* activities. In the medical career field (30), satisfaction was positively related to scores on *Science, Medical Service, Food Service,* and *Agriculture.*

Relationships between interests and satisfaction were found to differ between men and women assigned to the administrative area (51). The data indicate that job satisfaction among females was more highly related to prior interests than was satisfaction among males. Aside from *Office Administration,* which was a significant predictor for both groups, there were only two additional correlates in the male group as opposed to twelve in the female group. These differences were reflected in the multiple correlations also shown in the table (.20 vs. .38).

Similar sex differences were noted for general aircraft mechanics (601) where, again, job satisfaction among females was more predictable than it was among males. Overall, satisfaction in the mechanical specialties seemed to be most consistently related in both samples to scores on *Heavy Construction, Mechanics,* and *Law Enforcement.*

Table 7. **Specific Relationships Between VOICE Subscales and Satisfaction in Selected Occupations**

VOICE Subscales	Occupational Group													
	Electronic (10)		Medical Care (30)		Administration (51)				Mechanics (601)				Law Enforcement (83b)	
	M/F Combined		M/F Combined		Males		Females		Males		Females		M/F Combined	
	R	Reg Wgt	R	Reg Wgt	R	Reg Wgt	R	Reg Wgt	R	Reg Wgt	R	Reg Wgt	R	Reg Wgt
Office Administration	.03	− .1	.08	2.2	.13**	3.0	.28**	5.8	−.07	.3	−.23*	.0	.07	5.0
Electronics	.20**	2.5	−.01	.2	−.01	.6	−.09**	−1.1	.04	−.4	.19	−2.1	−.02	−.7
Heavy Construction	.11*	−1.0	.05	.8	−.01	.3	−.07*	−2.7	.14*	1.0	.26**	4.6	.09	1.2
Science	.04	−.4	.09*	1.6	−.05	−.4	−.14**	−1.3	−.12*	.8	−.02	.8	.03	2.9
Outdoors	.03	−2.1	.04	−1.0	−.02	.7	−.07*	−1.3	.11	2.1	.02	−1.7	.12*	1.0
Medical Service	−.04	−1.5	.21**	3.2	.03	.7	−.10**	−1.6	−.13*	.1	−.23*	−2.0	.01	−2.0
Aesthetics	−.09*	−2.7	.04	−.1	.00	−.6	−.03	.8	−.07	−1.7	−.01	−2.2	−.02	−2.4
Mechanics	.14**	−.4	.03	.2	.00	1.0	−.03	3.4	.18**	2.8	.26**	5.2	.02	−2.2
Food Service	−.01	1.4	.12**	1.9	.06*	1.7	.07*	.0	−.04	1.8	−.21*	−2.8	.05	1.4
Law Enforcement	.11*	2.4	.08	.2	.00	−.5	−.12**	−2.3	.05	2.6	.13	2.0	.25**	7.8
Audiographics	.04	−.3	.01	.6	.03	−1.7	−.11**	−4.2	−.02	−1.9	−.06	.0	−.02	−1.0
Mathematics	.06	.8	.00	−1.1	.01	−2.9	.08*	.1	−.10	−1.0	−.08	.1	.02	−1.0
Agriculture	.03	1.6	.10*	1.0	−.05	−2.3	−.03	3.1	−.02	−.8	.08	2.4	.13**	2.3
Teacher/Counseling	−.02	−.1	.03	−3.7	.06*	2.7	−.01	−.7	−.08	−1.1	.00	−1.0	.06	−.4
Marksman	.13**	2.9	.02	1.0	−.04	−1.9	−.11**	−1.7	.00	−3.2	.17	3.9	.10*	−.9
Craftsman	.03	.2	.03	−4.4	.01	−2.9	.04	4.2	−.07	−5.5	−.14	−3.9	−.07	−8.1
Drafting	.08	1.9	−.08	−6.0	−.05	−2.0	−.03	1.2	−.02	−1.8	.02	−.7	−.07	−4.7
Automated Data Proc	.12**	1.9	−.03	−2.3	−.03	−.8	.07*	−2.4	−.12*	2.4	−.01	−.6	−.08	−6.4
Multiple R	.27		.29		.20		.38		.32		.57		.36	
Constant		516.29		512.9		538.0		568.6		435.7		442.6		392.2

Note. — All multiple R's are significant beyond the .05 level.

*Significant at the .05 level.

**Significant at the .01 level.

The principal correlates in the law enforcement cluster (83b) included scores obtained on the *Outdoors, Law Enforcement, Agriculture,* and *Marksman* subscales.

Unique contributions of the subscales in predicting job satisfaction may also be noted in Table 7. The raw-score regression weights indicate the amount of increase or decrease in expected satisfaction per unit change in a given subscale, at fixed levels on all other subscales. In the electronics cluster (10), for example, every increase of 1 point on the *Electronics* scale would yield a corresponding increase of 2.5 points in expected satisfaction at fixed levels on the remaining subscales. It will be noted that the pattern of unique contributions to prediction indexed by these weights varied considerably across scales within a single occupation. These findings are consistent with the view that satisfaction in a given job cluster may involve interests in more than one domain. Similarly, a disparity in the weights associated with a given subscale across different occupations would indicate the extent to which differing work environments may have common referents in the interest scales. Scores on the *Office Administration* scale, for example, were positively weighted in predictions for medical services (30), administration (51), and law enforcement (83b). High scores on the *Electronics* subscale, all other things equal, were indicative of satisfaction in the electronics cluster (10), but dissatisfaction in administration (51-Females) and mechanics (601). Other instances of more or less direct correspondence between specific VOICE measures and logical counterparts among the career specialties may be noted for the *Medical Service, Mechanics,* and *Law Enforcement* subscales.

IV. DISCUSSION

Overall, the results of these analyses offer broad implications for understanding why some persons find their occupations more satisfying than do others. They also offer a technology for improving job satisfaction to the extent that vocational interest data can be incorporated into current job placement procedures. On a general level, the findings indicate that global reports of job satisfaction obtained after a year's experience in the field can be partially accounted for by specific interests measured at time of entry. The influence of prior interests appears to be multi-dimensional in the sense that (a) several different measures may relate to satisfaction in a single job, and (b) patterns of interest may vary across occupations although common elements can be identified. VOICE interest scales in general were found to have significant effects in and of themselves when other factors such as sex and aptitude were held constant. Finally, evidence was found that distinctions based on sex and occupational group enhanced the prediction of job satisfaction over and above that attributable to vocational interests alone.

These results were encouraging from a practical viewpoint as well, inasmuch as equations for estimating job satisfaction are generalizable to new samples of recruits. Based on evaluation of individual interests at time of entry, the capability exists as a by-product of these analyses for evaluating alternative areas of assignment for specific individuals. More detailed illustrations of this procedure are given in the following paragraphs.

Counseling Applications

The usefulness of a vocational interest inventory for counseling and job placement purposes depends in large measure on the extent to which it yields relevant occupational data for differential assignment. That is, it is important that the subscale scores be transformed in some way to provide direct comparisons between alternative career choices. This process is accomplished through the use of career-level regression equations which optimally weigh the subscales to predict satisfaction within each specialty.

To obtain estimates for a specific job cluster, two vectors of information are required: (1) Raw scores on each of the 18 VOICE subscales, and (2) Raw-Score regression weights appropriate for the cluster. Table 8 illustrates the transformation for a recruit considering entry into the medical care (30) career area. The raw scores are obtained directly from item responses to the VOICE. They are paired with corresponding regression weights for the 30 career field as shown in the appendix (Table A7). In this case, the recruit's expected level of satisfaction in medical care is estimated to be 675 on a scale of 200 to 800 where 200 = very dissatisfied and 800 = very satisfied. The appropriateness of the assignment can be judged on the basis of absolute as well as normative referents. A predicted score of 675 is well above both the "indifference" point (500) on the scale and the score corresponding to "moderate satisfaction" (600). Moreover, it also exceeds the expected value obtained for an "average" male recruit scoring at the mean on all VOICE subscales. This value is estimated to be 606 on the scale.

Table 8. **Estimating Satisfaction in the Medical Care (30) Specialties**

VOICE Subscales	Raw Score	Raw Score Weights for 30-Medical Care	Cross-Products
Office Administration	58	2.18	126.44
Electronics	60	.21	12.60
Heavy Construction	42	.78	32.76
Science	60	1.60	96.00
Outdoors	45	–.99	–44.55
Medical Service	48	3.20	153.60
Aesthetics	45	–.07	–3.15
Mechanics	43	.17	7.31
Food Service	35	1.94	67.90
Law Enforcement	37	.24	8.88
Audiographics	28	.61	17.08
Mathematics	36	–1.14	–41.04
Agriculture	43	.99	42.57
Teacher/Counseling	30	–3.73	–111.90
Marksman	21	1.03	21.63
Craftsman	15	–4.44	–66.60
Drafting	21	–5.98	–125.58
Automated Data Processing	14	–2.28	–31.92
Constant		512.90	512.90
			Σ = 674.93[a]

[a]Estimated satisfaction is obtained by cross-multiplying an individual's raw scores on the VOICE with corresponding regression weights for a given career field. The products are then summed across all scales and adjusted by the appropriate constant.

Expected values for this particular recruit in all 20 occupational areas are shown graphically in Figure 2. The predicted level of satisfaction in each specialty is profiled with the dotted line. For reference purposes, the predicted scores of an "average" recruit have also been provided (solid line). In terms of absolute satisfaction, he would probably be best suited for the medical career fields (30 or 3X). Least optimal from the standpoint of expected satisfaction would be assignment to armaments and munitions (64) or security police (83a) based on his interest at time of entry. Figure 3 shows a corresponding profile for a female recruit. Since female entry into three of the twenty groups was restricted at the time of the study, seventeen estimates are available. The large negative depression across the mechanical careers (600, 601, 602, and 6X) indicates this recruit would probably be ill-suited for that area of assignment. On the other hand, there are indications that she might be more appropriately assigned to miscellaneous medical and dental fields, radar/ATC, technical and allied specialties, or possibly administration.

V. CONCLUSIONS AND RECOMMENDATIONS

The principal research findings of this study can be summarized as follows:

1. Moderate but highly consistent relationships were found to exist between vocational interests measured at point of entry into service and reported satisfaction with assignment after approximately one year on the job.

2. These relationships were statistically significant in and of themselves and when baseline effects due to aptitude and group membership (sex and DoD occupation) were held constant.

3. The pattern of relationships between specific interests and satisfaction appeared to vary considerably by occupational group. Within groups, occasional variation by sex category was noted,

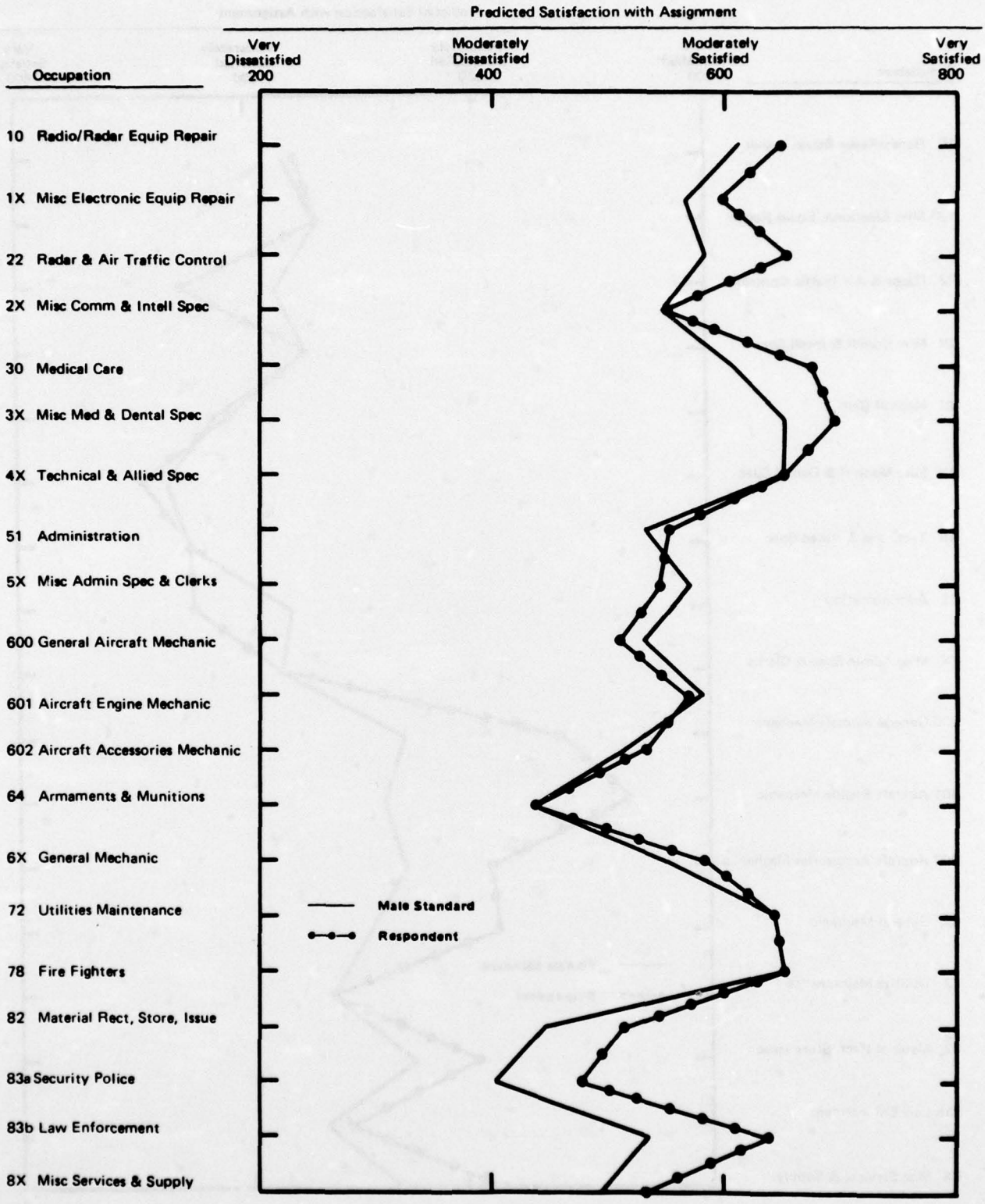


Figure 2. **VOICE occupational profile – male.**

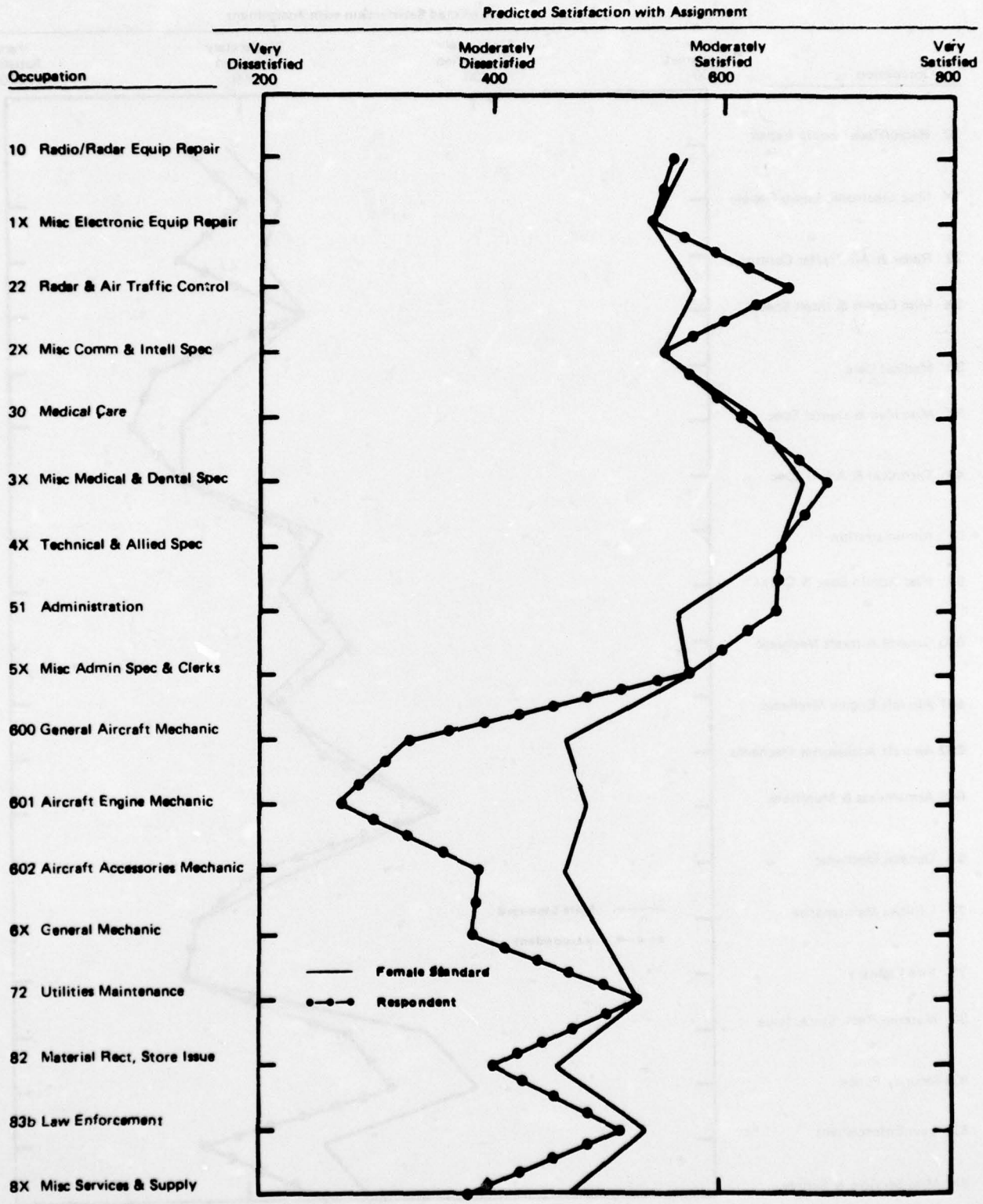


Figure 3. **VOICE occupational profile – female.**

although this latter finding was true for only a small proportion of the career fields examined. For the most part, the regression equations relating interest to satisfaction were virtually identical for male and female recruits.

4. No evidence was found that aptitude scores as measured by the ASVAB were related to reported satisfaction.

Based on these findings, it is recommended that the VOICE be considered for operational use as an adjunct to the standardized aptitude assessment program. Ideally, the inventory would be available for optional use in a non-binding fashion to provide guidance to prospective enlistees who may be uncertain about their career choice. Such a program would yield benefits to the enlistee, in terms of increased satisfaction with assignments, and to the service which could expect higher productivity and longer retention from improved job placement techniques.

Future research efforts appear warranted in the following areas: (a) increasing the sample of respondents to provide more definitive classification guidelines, (b) further exploration of commonalities between career fields, (c) norming and standardization of operational Air Force interest composites, and (d) investigation of other criteria of interest (i.e., technical training and retention) which might be affected in a positive way with more sophisticated utilization of vocational interest data.

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APPENDIX A

Table A1. **Assignment of Air Force Specialty Codes to DoD Occupational Groups**

Occupational Group		
Code	**Description**	**Air Force Specialty Code**
10	Radio/Radar Equipment Repair	304X0, 304X4, 304X6, 307X0, 328X0, 304X1, 328X3, 328X4, 325X0, 328X1, 329X0, 303X1, 303X2, 303X3, 309X0, 328X2
1X	Miscellaneous Electronic Equipment Repair	321X0, 322X1, 320X0, 323X0, 316X1, 316X0, 317X0, 316X2, 317X , 306X0, 306X1, 362X2, 363X0, 304X5, 341X1, 342X0, 343X0, 302X0, 324X0, 325X1, 326X0, 326X1, 326X2, 403X0, 404X0, 991X3, 463X0, 305X4
22	Radar and Air Traffic Control	270X0, 276X0, 272X0
2X	Miscellaneous Communications and Intelligence Specialties	207X1, 207X2, 202X0, 203X1, 205X0, 203X0, 206X0, 204X0, 821X0, 293X3, 274X0
30	Medical Care	901X0, 902X0, 912X5, 902X2, 914X0, 914X1, 913X0
3X	Miscellaneous Medical and Dental Specialties	904X0, 904X1, 909X0, 905X0, 903X0, 981X0, 982X0
4X	Technical and Allied Specialties	230X0, 231X1, 232X0, 233X0, 233X4, 236X1, 791X1, 221X0, 222X0, 553X0, 223X1, 231X1, 251X0, 252X1, 464X0, 991X7, 871X0, 871X1
51	Administration	702X0, 704X0, 705X0, 906X0, 602X0, 605X0, 605X1, 391X0, 433X0, 271X0
5X	Miscellaneous Administrative Specialties and Clerks	732X0, 732X1, 511X0, 691X0, 511X1, 554X0, 671X1, 672X0, 671X3, 645X0, 651X0, 915X0, 701X0, 741X1, 990X5, 751X0, 791X0, 291X0
600	General Aircraft Mechanic	431X0, 431X1
601	Aircraft Engine Mechanic	432X0, 432X1
602	Aircraft Accessories Mechanic	421X1, 421X2, 421X3, 422X1, 423X0, 424X0, 424X1, 425X0
64	Armaments and Munitions	461X0, 462X0
6X	General Mechanic	534X0, 472X1, 473X0, 472X0, 361X0, 361X3, 361X1, 362X1, 362X3, 362X4, 443X0, 442X0, 541X0, 543X0
72	Utilities Maintenance	545X0, 546X0, 547X0, 552X5, 563X0, 566X0, 542X0, 542X1
78	Fire Fighter	571X0, 923X0
82	Material Receipt, Storage and Issue	630X0, 631X0, 601X4, 647X0, 611X0
83a	Security Police	811X0
83b	Law Enforcement	812X0
8X	Miscellaneous Services and Supply	621X0, 622X0, 742X0, 600X0, 603X0, 991X9, 812X1, 114X0, 581X0, 607X0, 922X0

Table A2. **Design of Analyses: Model Specifications and Comparisons**

System-wide Analyses

Models	Predictor Variables
Y = (VOICE + ASVAB) x Group	Contains separate VOICE and ASVAB vectors for each sex by DoD group.
Y = ASVAB x Group	Contains separate ASVAB vectors for each sex by DoD group.
Y = VOICE x Group	Contains separate VOICE vectors for each sex by DoD group.
Y = Group	Contains group membership vectors for each sex by DoD group.
Y = Unit Vector	Contains unit vector only.

Comparisons		Hypotheses Tested
Full	**Restricted**	
(VOICE + ASVAB) x Group	Unit Vector	H1: Test for overall effects due to group membership, VOICE and/or ASVAB.
Group	Unit Vector	H2: Test for simple group membership effects.
ASVAB x Group	Group	H3: Test for ASVAB effects controlling for group membership.
VOICE x Group	Group	H4: Test for VOICE effects controlling for group membership.
(VOICE + ASVAB) x Group	VOICE x Group	H5: Test for ASVAB effects controlling for group membersh p and VOICE.
(VOICE + ASVAB) x Group	ASVAB x Group	H6: Test for VOICE effects controlling for group membership and ASVAB.

VOICE Analyses Within Sex Categories[a]

Models	Predictor Variables
Y = VOICE x DoD Group	Contains separate VOICE vectors for each DoD group.
Y = VOICE	Contains common VOICE vectors for all DoD groups combined.
Y = DoD Group	Contains DoD group membership vectors only.
Y = Unit Vector	Contains unit vector.

Comparisons		Hypotheses Tested
Full	**Restricted**	
VOICE x DoD Group	VOICE	H1: Test for unique contribution of DoD group membership data to common VOICE vectors.
VOICE	Unit Vector	H2: Test for unique contribution of VOICE data assuming DoD effects are zero.
VOICE x DoD Group	DoD Group	H3: Test for unique contribution of VOICE data assuming DoD effects are non-zero.

VOICE Analyses Within DoD Occupational Groups[a]

Models	Predictor Variables
Y = VOICE x Sex Group	Contains separate VOICE vectors for each sex group.
Y = VOICE	Contains common VOICE vectors for both sex categories.
Y = Sex Group	Contains sex group membership vectors only.
Y = Unit Vector	Contains unit vector.

Comparisons		Hypotheses Tested
Full	**Restricted**	
Y = VOICE x Sex Group	VOICE	H1: Test for unique contribution of sex group membership data to common VOICE vectors.
Y = VOICE	Unit Vector	H2: Test for unique contribution of VOICE data assuming sex effects are zero.
Y = VOICE x Sex Group	Sex Group	H3: Test for unique contribution of VOICE data assuming sex effects are non-zero.

[a]The VOICE variables in these models will be supplemented with ASVAB data if appropriate.

Table A3. **Subscale Means and Standard Deviations by Occupational Group – Male Sample**

Subscale		Occupational Group																					
		Electronics		Comm & Intell		Medical		Tech	Admin-tration		Mechanics					Util-ties	Fire-man	Mate-rial	Police		Svc/ Supply	Total Sample
		10	1X	22	2X	30	3X	4X	51	5X	600	601	602	64	6X	72	78	82	83a	83b	8X	
Office Admin	X	31.69	31.39	32.71	34.62	32.09	33.15	31.79	38.42	41.23	29.72	29.27	31.61	29.77	30.98	30.02	30.67	33.54	31.70	28.87	31.09	32.78
	SD	9.22	9.95	10.41	10.26	10.24	10.35	9.62	11.67	11.19	9.63	9.80	9.95	9.65	10.08	10.08	10.29	10.74	10.17	8.41	10.15	10.88
Electronics	X	50.68	50.33	37.75	37.41	35.56	35.30	37.52	35.98	36.42	42.11	41.66	45.25	42.34	44.39	45.32	35.45	37.64	36.01	33.43	36.99	40.25
	SD	8.98	9.03	12.04	12.21	12.26	11.29	12.23	12.36	12.27	11.86	11.39	11.69	11.89	11.48	11.86	12.55	12.55	12.02	10.82	12.44	12.71
Heavy Construction	X	34.05	34.53	30.94	31.05	30.80	32.04	32.73	31.92	31.68	37.74	38.21	35.68	38.87	38.63	38.72	34.55	33.74	33.75	33.25	34.74	34.60
	SD	9.67	9.90	8.39	8.79	8.81	8.98	9.38	9.81	9.22	9.48	10.01	10.01	9.55	9.93	9.99	9.94	9.57	9.94	9.46	10.13	9.99
Science	X	43.99	44.40	40.91	41.40	44.09	46.45	42.60	36.03	38.74	36.15	35.64	37.43	36.35	35.89	35.74	36.69	36.36	35.22	33.51	33.83	37.96
	SD	11.77	11.52	12.39	12.52	11.28	11.78	11.92	12.30	12.41	12.32	12.39	12.58	12.69	11.79	12.58	12.24	12.05	12.03	11.68	12.15	12.62
Outdoors	X	38.17	38.12	37.03	37.37	36.87	37.45	37.76	35.36	36.61	37.07	36.98	36.08	38.16	37.29	37.28	37.63	34.92	36.52	37.63	35.76	36.82
	SD	5.69	5.88	6.47	5.92	6.92	6.59	6.17	6.83	6.35	6.65	7.04	7.16	6.05	6.78	6.63	6.14	6.81	7.14	6.55	6.93	6.65
Medical Svc	X	32.20	32.29	34.33	33.93	46.03	44.29	34.89	34.61	34.50	31.16	31.25	33.29	31.12	32.48	31.19	34.64	34.65	34.26	32.07	32.17	33.62
	SD	9.98	9.65	10.42	9.96	10.05	10.96	10.65	10.72	10.51	9.82	10.29	10.14	9.72	10.35	10.34	10.28	10.49	10.16	9.22	10.25	10.62
Aesthetics	X	26.98	27.11	27.50	28.28	28.63	28.42	30.26	26.57	28.31	24.17	23.70	25.41	24.67	24.36	24.64	26.07	25.38	25.96	25.02	25.13	26.08
	SD	7.38	7.30	7.51	7.61	7.96	8.18	7.96	7.55	7.83	7.14	7.10	7.50	7.38	7.02	7.67	7.41	7.39	7.47	7.22	7.75	7.63
Mechanics	X	33.33	33.28	27.89	28.14	27.33	27.50	28.60	28.48	28.12	36.70	37.38	33.35	36.08	35.60	34.08	28.74	29.04	28.72	29.81	31.35	31.58
	SD	8.13	7.98	8.57	8.71	8.61	8.50	8.55	8.88	8.76	7.16	6.85	8.49	7.16	7.66	7.87	9.19	8.98	8.99	8.77	9.14	9.01
Food Service	X	21.03	20.81	21.14	21.41	22.11	21.93	22.57	22.05	22.71	20.82	21.26	21.47	21.16	21.49	21.05	21.38	21.52	21.67	20.58	23.35	21.54
	SD	6.13	5.83	6.21	5.67	6.29	6.42	6.32	6.60	6.74	6.02	6.35	6.22	6.14	6.35	6.13	6.48	6.03	6.40	5.68	7.77	6.64
Law Enforcement	X	27.90	28.34	29.20	28.80	29.20	27.84	28.58	28.67	28.78	28.86	28.97	28.71	29.86	29.17	28.32	33.04	29.08	33.64	36.05	29.53	29.50
	SD	7.16	6.97	7.10	7.13	7.61	6.76	6.80	7.01	7.00	6.99	7.20	7.11	7.08	7.01	6.93	6.78	7.23	7.24	6.17	7.20	7.32
Audiographics	X	21.70	21.89	21.98	22.08	21.12	21.65	23.30	20.54	21.23	20.27	20.03	20.80	20.08	20.06	20.57	21.69	21.19	20.57	19.79	19.66	20.84
	SD	5.41	5.25	5.44	5.44	5.53	5.17	5.43	5.62	5.54	5.93	6.01	5.89	5.93	5.67	6.22	5.76	5.80	5.70	5.45	5.91	5.73
Mathematics	X	25.78	25.67	22.40	23.13	22.43	24.65	23.24	22.09	24.61	19.91	19.23	20.74	19.68	20.03	20.45	19.40	20.39	19.75	18.10	19.44	21.56
	SD	6.92	7.05	7.24	7.44	6.95	7.44	7.43	7.28	7.47	6.80	6.56	6.70	7.00	6.87	7.39	6.88	6.74	6.95	5.96	6.79	7.34
Agriculture	X	28.41	28.14	27.78	28.24	29.23	30.58	29.46	26.92	28.13	28.36	28.23	27.81	29.53	28.69	28.46	28.77	27.29	28.51	28.61	28.50	28.27
	SD	7.45	6.87	6.84	6.90	7.39	7.07	7.43	7.01	7.38	6.93	7.22	7.08	6.80	7.23	7.09	7.46	7.09	7.24	6.66	6.79	7.14
Teacher/Counseling	X	19.80	19.97	20.66	20.94	21.37	21.60	21.22	20.32	21.71	17.89	17.86	18.65	18.04	17.99	17.54	19.78	19.05	19.25	18.84	18.74	19.43
	SD	5.46	5.39	5.54	5.35	5.55	5.48	5.66	5.69	5.64	5.55	5.69	5.60	5.45	5.63	5.72	5.76	5.63	5.59	5.40	5.67	5.72
Marksman	X	15.63	15.73	15.00	15.07	14.50	14.26	14.76	14.18	14.56	16.24	16.38	15.58	16.94	16.39	16.15	15.51	14.61	15.89	16.55	14.81	15.45
	SD	4.32	4.21	4.11	4.58	4.34	4.59	4.00	4.40	4.36	3.95	4.09	4.15	3.75	3.90	4.07	4.24	4.33	4.03	3.92	4.29	4.26
Craftsman	X	9.74	9.86	10.00	9.74	9.96	10.23	10.40	10.02	10.14	9.76	9.60	10.19	9.63	9.89	10.19	9.78	10.09	9.89	9.00	9.74	9.89
	SD	2.92	2.95	2.89	2.68	2.94	2.82	3.02	2.99	2.94	3.01	2.99	3.18	2.80	2.85	3.22	2.89	2.89	2.86	2.30	3.05	2.94
Drafting	X	14.25	14.57	14.11	13.57	13.27	14.06	14.92	12.77	13.55	13.06	12.72	13.19	12.95	13.03	12.75	12.97	12.92	12.32	12.05	12.10	13.20
	SD	3.97	3.84	4.10	4.24	3.95	3.93	4.29	4.11	4.03	4.17	4.06	4.22	4.23	4.16	4.31	4.29	4.19	4.15	3.95	3.96	4.17
Automated Data Proc	X	15.72	15.90	14.22	14.44	13.37	13.55	13.78	14.22	15.36	12.89	12.67	14.32	12.93	13.38	13.39	12.09	13.95	12.92	11.51	12.11	13.78
	SD	3.73	3.89	4.19	4.47	4.37	4.13	4.35	4.45	4.15	4.40	4.41	4.41	4.33	4.45	4.86	4.13	4.61	4.41	3.94	4.35	4.46
Administrative – AI	X	63.83	62.58	61.41	69.48	60.62	63.70	63.64	57.02	67.22	47.21	47.47	42.65	48.42	45.31	44.66	49.66	48.54	49.55	55.89	50.11	54.29
	SD	17.89	18.79	17.68	15.08	17.19	19.71	17.83	16.45	16.49	17.82	18.32	17.98	17.30	18.15	17.57	17.35	18.08	17.69	16.22	18.75	19.33
Electronics – AI	X	84.09	82.45	65.66	69.42	66.69	69.75	74.38	55.88	64.17	62.40	62.64	57.84	62.41	61.67	60.56	59.44	56.64	56.23	62.92	59.39	63.83
	SD	7.92	9.46	17.37	18.82	16.28	18.05	16.50	17.31	17.56	16.07	17.86	14.99	14.20	14.25	15.13	17.15	16.78	17.88	16.53	18.59	18.04
General – AI	X	75.07	74.31	73.94	76.14	75.04	77.44	79.65	59.16	71.44	58.30	57.55	51.02	59.06	55.93	55.19	65.40	61.72	61.12	69.73	61.09	64.16
	SD	13.88	15.11	13.14	15.41	10.96	11.17	12.12	16.85	15.36	16.67	18.19	17.67	14.61	16.70	15.86	13.38	14.08	15.27	13.14	18.29	17.43
Mechanical – AI	X	74.84	72.40	58.57	58.22	58.29	63.14	66.36	47.38	53.79	66.38	66.62	50.76	69.73	62.97	58.10	53.93	48.44	50.33	60.69	59.33	59.45
	SD	15.73	18.00	19.75	22.11	21.35	21.62	21.09	20.48	20.82	15.80	18.17	19.98	12.04	17.49	19.48	22.16	19.27	19.33	19.50	20.52	20.78

Table A4. **Subscale Means and Standard Deviations by Occupational Specialty – Female Sample**

Subscale		Occupational Group: Electronics 10	Electronics 1X	Comm & Intell 22	Comm & Intell 2X	Medical 30	Medical 3X	Tech 4X	Admin-istration 51	Admin-istration 5X	Mechanic 600	Mechanic 601	Mechanic 602	Mechanic 64	Mechanic 6X	Utilities 72	Fireman 78	Material 82	Police 83a	Police 83b	Svc/Supply 8X	Total Sample
Office Admin	X	34.93	35.32	38.18	36.70	34.33	37.06	34.97	40.96	40.86	36.36	34.60	37.03		37.37	38.84		42.01		34.70	37.11	38.08
	SD	10.52	9.87	11.82	10.31	10.51	10.40	9.89	10.94	11.43	11.36	11.15	11.17		12.13	11.87		11.11		10.58	11.89	11.83
Electronics	X	41.26	41.03	28.66	27.91	27.71	30.23	29.64	28.72	27.65	36.52	37.29	38.76		37.42	41.56		30.03		27.21	30.38	31.83
	SD	12.42	12.13	10.58	10.19	9.87	11.29	9.64	10.27	9.51	12.42	12.70	11.89		11.21	12.36		10.54		8.73	11.24	11.93
Heavy Construction	X	27.71	29.35	27.00	24.68	25.72	27.01	26.20	25.08	25.45	29.36	32.48	28.38		28.19	31.72		26.95		26.74	27.39	26.90
	SD	8.02	8.91	8.86	5.84	7.03	7.87	7.05	6.65	6.99	9.01	9.73	7.60		8.56	10.30		7.80		7.50	8.36	7.95
Science	X	44.39	46.52	38.82	38.68	42.12	46.23	39.69	35.73	36.44	38.96	38.84	38.53		37.28	41.67		35.80		35.55	35.95	38.36
	SD	12.18	12.43	13.36	12.51	11.69	10.78	11.93	12.13	11.97	12.67	12.18	12.59		12.11	12.68		11.59		11.39	11.92	12.57
Outdoors	X	36.79	37.85	37.43	36.89	36.86	37.65	36.10	35.66	36.51	37.63	38.75	37.38		37.29	37.12		36.12		38.15	36.25	36.75
	SD	4.69	4.40	5.25	5.22	5.07	4.76	5.66	5.91	5.68	5.70	4.80	4.74		5.23	5.47		6.37		5.19	6.25	5.63
Medical Svc	X	36.93	38.66	41.41	39.98	51.23	48.60	39.39	40.74	40.19	40.65	39.97	39.71		39.74	42.63		41.95		40.52	40.87	41.09
	SD	10.85	11.80	10.97	10.80	8.21	9.42	10.57	11.07	11.09	11.57	11.13	11.63		11.02	12.43		11.25		10.86	10.75	11.39
Aesthetics	X	33.07	33.72	33.37	34.24	32.42	34.21	35.61	31.06	32.55	31.80	30.57	31.50		30.80	31.07		31.61		31.42	31.34	32.05
	SD	6.68	6.86	7.20	6.25	6.78	6.53	6.32	7.04	6.81	7.08	7.35	7.56		7.00	8.39		6.87		7.14	7.01	7.07
Mechanics	X	26.78	27.05	23.62	21.26	22.16	23.63	22.75	22.69	21.79	29.44	32.18	28.15		27.42	26.88		24.48		23.38	24.61	24.65
	SD	8.49	8.48	8.95	6.62	7.01	7.92	6.74	7.45	7.06	8.95	9.08	8.28		8.34	9.07		8.16		7.65	9.11	8.48
Food Service	X	26.58	27.38	25.55	26.84	27.29	27.53	27.36	26.50	27.02	26.51	26.88	25.43		27.23	27.84		26.99		26.30	28.26	26.77
	SD	7.07	6.78	7.14	7.20	6.90	7.91	6.78	7.16	7.43	7.71	6.95	6.64		7.40	7.39		6.98		6.99	8.13	7.28
Law Enforcement	X	25.80	26.62	27.62	25.99	27.37	28.59	25.65	25.82	25.85	27.18	27.46	26.67		26.81	28.51		26.52		33.67	27.23	26.78
	SD	6.41	6.34	5.74	5.93	6.60	7.36	6.17	6.53	6.84	6.97	7.09	6.45		6.34	7.05		6.85		6.27	6.84	6.84
Audiographics	X	23.48	24.22	22.89	22.31	21.33	21.81	23.72	21.48	22.02	23.04	22.92	22.71		22.39	23.26		21.85		21.37	22.31	22.26
	SD	5.17	4.86	5.30	4.85	5.50	5.91	5.03	5.35	5.46	5.31	5.27	5.23		5.16	5.74		5.33		5.47	5.55	5.40
Mathematics	X	26.53	27.37	21.99	22.51	21.09	22.97	22.06	21.34	22.35	21.86	21.06	21.57		22.12	23.67		21.35		18.56	20.61	22.05
	SD	7.15	7.08	7.88	7.50	7.17	7.67	7.22	6.95	7.48	7.43	7.13	7.08		7.55	7.93		6.92		6.36	7.41	7.42
Agriculture	X	32.27	33.85	30.58	31.55	31.69	31.86	31.05	28.93	30.09	31.51	32.85	29.92		30.96	32.40		29.65		31.75	30.88	30.69
	SD	7.05	7.07	7.38	7.79	7.54	7.84	7.29	7.94	7.84	7.92	7.88	7.57		7.20	7.36		7.89		6.99	8.11	7.84
Teacher/Counseling	X	21.99	22.05	23.29	22.91	22.89	23.48	22.89	22.42	22.80	22.34	21.72	22.43		21.97	21.79		22.64		21.91	22.08	22.44
	SD	4.89	5.12	5.20	4.70	5.03	5.05	4.84	5.19	5.20	5.16	5.40	5.24		5.41	5.32		5.51		5.43	5.30	5.20
Marksman	X	11.62	12.28	11.68	10.51	10.80	11.98	11.02	10.71	10.78	12.46	13.17	12.31		12.49	12.37		11.03		13.70	11.31	11.48
	SD	4.10	4.17	4.25	3.87	3.82	4.33	3.59	3.80	3.96	4.48	4.64	4.51		4.11	3.60		4.17		4.07	4.25	4.17
Craftsman	X	11.34	11.87	10.84	11.01	11.10	11.28	11.79	11.03	11.24	11.46	11.21	10.96		11.06	12.00		11.23		10.73	11.04	11.20
	SD	3.19	3.02	3.11	2.78	2.88	3.25	2.83	2.79	2.72	3.01	2.71	2.76		2.91	3.62		2.88		2.99	2.98	2.91
Drafting	X	14.46	16.05	12.83	12.87	12.13	13.13	14.40	12.22	12.61	13.59	13.79	12.77		13.70	14.21		12.02		11.66	12.93	12.96
	SD	4.01	3.85	4.03	4.15	3.87	4.39	4.05	4.05	4.07	4.20	4.15	4.12		4.00	4.24		3.56		3.88	4.20	4.18
Automated Data Proc	X	14.23	15.13	13.20	12.96	12.01	13.07	13.08	14.25	14.42	13.74	13.45	14.47		14.23	15.14		14.42		11.72	13.49	13.84
	SD	4.28	4.13	4.44	4.09	4.20	4.30	4.17	4.12	4.29	4.28	4.42	4.39		4.22	4.47		4.53		3.98	4.48	4.32
Administrative – AI	X	76.47	75.94	69.21	75.78	67.99	69.36	64.41	61.68	70.13	61.63	62.27	55.96		63.55	58.72		52.59		61.68	58.71	64.76
	SD	15.85	15.49	14.49	11.88	14.94	12.91	20.54	15.56	13.24	16.41	15.31	17.74		17.15	16.67		19.74		15.39	16.64	16.80
Electronics – AI	X	80.20	80.85	54.28	56.49	56.02	58.43	57.09	48.15	52.67	58.03	53.04	51.40		57.97	56.40		43.58		47.15	51.50	54.84
	SD	7.55	9.02	16.46	19.96	17.33	16.48	19.70	18.45	16.67	11.08	16.98	12.14		13.71	11.43		18.19		15.63	18.22	18.37
General – AI	X	81.03	81.24	71.05	74.16	73.03	72.97	70.73	60.47	67.48	64.04	65.68	59.58		64.64	61.28		58.53		65.74	62.87	66.28
	SD	11.00	12.05	9.33	16.16	12.24	11.44	17.59	16.08	13.55	14.50	14.56	16.21		16.29	13.30		13.35		11.16	13.87	15.71
Mechanical – AI	X	53.57	54.79	33.49	38.75	37.09	41.45	38.50	30.56	33.00	38.69	49.19	31.80		46.16	33.60		24.79		29.40	39.50	36.51
	SD	16.46	18.25	15.79	21.33	18.89	18.35	18.84	17.44	16.78	17.53	9.58	16.28		13.81	20.13		15.20		15.62	18.20	18.75

Table A5. **Results of Regression Analyses Within Occupational Group**

Occupational Group		Test for Unique Sex Effect					Test for Unique VOICE Effect									
							Sex Effect Assumed to be Zero					Sex Effect Assumed to be Non-Zero				
		R^2					R^2					R^2				
		Full	Restricted				Full	Restricted				Full	Restricted			
Code	Description	VOICE x Sex	VOICE	d_{f1}	d_{f2}	F	VOICE	Unit Vector	d_{f1}	d_{f2}	F	VOICE x Sex	Sex	d_{f1}	d_{f2}	F
10	Radio/Radar Equip Repair	.1070	.0733	19	609	1.21^{ns}	.0733	.0000	18	628	2.76**					
1X	Misc Elec Equip Repair	.1043	.0687	19	593	1.24^{ns}	.0687	.0000	18	612	2.50**					
22	Radar and Air Traffic Control	.1791	.0994	19	265	1.35^{ns}	.0994	.0000	18	284	1.74*					
2X	Misc Comm and Intell Spec	.1009	.0655	19	351	.73^{ns}	.0655	.0000	18	370	1.44^{ns}					
30	Medical Care	.1321	.0857	19	445	1.25^{ns}	.0857	.0000	18	464	2.42**					
3X	Misc Medical and Dental Spec	.2236	.1775	19	169	.53^{ns}	.1775	.0000	18	188	2.25**					
4X	Technical and Allied Spec	.0796	.0472	19	234	.43^{ns}	.0472	.0000	18	253	.70^{ns}					
51	Administration	.0995	.0789	19	1739	2.09**						.0995	.0052	36	1739	5.06**
5X	Misc Admin Spec and Clerks	.0663	.0547	19	1088	.71^{ns}	.0547	.0000	18	1107	3.56**					
600	General Aircraft Mechanic	.1007	.0768	19	1328	1.86*						.1007	.0176	36	1328	3.41**
601	Aircraft Engine Mechanic	.2299	.1655	19	373	1.64*						.2299	.0478	36	373	2.45**
602	Aircraft Accessories Mechanic	.1485	.1055	19	557	1.48^{ns}	.1055	.0000	18	576	3.77**					
64	Armaments and Munitions	Na					.0427	.0000	18	396	1.57^{ns}					
6X	General Mechanic	.1376	.0984	19	327	.78^{ns}	.0984	.0000	18	346	2.09**					
72	Utilities Maintenance	.2869	.1242	19	139	1.67*						.2869	.0652	36	139	1.20^{ns}
78	Fire Fighter	Na					.1395	.0000	18	143	1.29^{ns}					
82	Material Rept, Storage & Issue	.0750	.0518	19	517	.68^{ns}	.0518	.0000	18	536	1.63*					
83a	Security Police	Na					.1192	.0000	18	632	4.75**					
83b	Law Enforcement	.1943	.1271	19	313	1.37^{ns}	.1271	.0000	18	332	2.69**					
8X	Misc Services and Supply	.1427	.1054	19	367	.84^{ns}	.1054	.0000	18	386	2.53**					

*Significant at the .05 level.

**Significant at the .01 level.

^{ns}Non-Significant.

^{Na}Denotes occupations restricted to male entrants.

Table A6. **Zero Order and Multiple Correlations Between VOICE Subscales and Satisfaction with Assignment**

VOICE Subscales	Occupational Group																								
	Electronics		Comm & Intell		Medical		Tech	Admin-istration			Mechanics							Util-ities		Fire-man	Mate-rial	Police		Svc/ Supply
	10	1X	22	2X	30	3X	4X	51		5X	600		601		602	64	6X	72		78	82	83a	83b	8X
	M/F	M/F	M/F	M/F	M/F	M/F	M/F	M	F	M/F	M	F	M	F	M/F	M	M/F	M	F	M	M/F	M	M/F	M/F
Office Admn	03	−01	05	−04	08	08	00	13**	28**	13**	−02	−11**	−07	−23*	−07	08	−02	−10	−07	−14	12**	−05	07	−06
Electronics	20**	12**	01	14	−01	−01	−01	−01	−09**	−03	02	17**	04	19	15**	04	19**	−04	08	−03	03	−10*	−02	06
Heavy Construction	11*	06	07	13	05	−02	−02	−01	−07*	−01	08**	27**	14*	26**	15**	06	21**	−02	34	10	10*	04	09	15**
Science	04	−03	14*	−01	09*	12	−05	−05	−14**	−09**	−02	06	−12*	−02	05	05	−01	−09	09	00	−04	−11*	03	−03
Outdoors	03	−01	18**	02	04	07	−01	−02	−07*	−09**	05	12**	11	02	14**	06	09	−05	33	11	05	11*	12*	08
Medical Svc	−04	−09*	00	−10	21**	17*	−10	03	−10**	−06*	−01	−09*	−13*	−23*	−05	02	−03	−10	−12	02	04	−09*	01	−10*
Aesthetics	−09*	−04	03	−11	04	02	04	00	−03	−05	−06*	−06	−07	−01	−06	01	−05	−11	11	−12	07	−07	−02	−02
Mechanics	14**	03	00	13	03	02	−06	00	−03	−02	12**	28**	18**	26**	20**	02	21**	−04	16	12	05	−3	02	06
Food Svc	−01	01	−01	00	12**	02	10	06*	07*	03	00	−08	−04	−21*	−04	02	−03	−18	22	−02	12**	03	05	13**
Law Enforcement	11*	−03	10	05	08	−06	−09	00	−12**	−04	09**	12**	05	13	13**	08	05	−19	09	15	06	21**	25**	14**
Audiographics	04	−06	08	−02	01	−16*	05	−03	−11**	−10**	−04	02	−02	−06	−03	00	−03	−11	17	−08	01	−11*	−02	00
Mathematics	06	07	08	02	00	11	−04	01	08**	04	−05	−01	−10	−08	02	03	−02	−03	−01	−07	−01	−09*	02	−06
Agriculture	03	02	06	01	10*	−04	00	−05	−03	−09**	02	14**	−02	08	14**	06	05	−03	25	09	07	11*	13**	10*
Teacher/Counsel	−02	−05	09	−01	03	11	−04	06*	−01	00	−03	−07	−08	00	−03	01	−07	−09	−08	−04	06	−02	06	−03
Marksman	13**	07	03	10	02	−08	−07	−04	−11**	−06*	03	22**	00	17	14**	11	12*	−12	22	06	03	16**	10*	12*
Craftsman	03	00	04	−05	03	−11	04	01	04	02	−05	−03	−07	−14	−09*	01	−03	−08	10	−08	03	−08	−07	01
Drafting	08	−01	12*	00	−08	01	03	−05	−03	−10**	−05	06	−02	02	03	02	−03	−01	30	−02	−03	−09*	−07	−02
Automated Data Proc	12**	11*	−06	−01	−03	04	−03	03	07*	09**	−01	−03	−12*	−01	04	03	02	−13	−05	−14	00	−16**	−08	−06
Multiple R	.2707	.2621	.3253	.2559[ns]	.2927	.4213	.2173[ns]	.2033	.3799	.2339	.1986	.3825	.3248	.5698	.3248	.2067[ns]	.3137	.3380	.7246	.3736[ns]	.2276	.2452	.3565	.3247
								(.3154) combined			(.3173) combined		(.4795) combined					(.5356[ns]) combined						

Note. — All multiple R's are significant beyond the .05 level except where indicated (ns).

*Significant at the .05 level.

**Significant at the .01 level.

[ns]Non-Significant.

Table A7. **Regression Weights for Estimating Satisfaction with Assignment from VOICE Subscales**

VOICE Subscales	Occupational Group																								
	Electronics		Comm & Intell		Medical		Tech	Admin-istration			Mechanics							Utili-ties		Fire-man	Mate-rial	Police		Svc/ Supply
	10	1X	22	2X	30	3X	4X	51		5X	600		601		602	64	6X	72		78	82	83a	83b	8X
	M/F	M/F	M/F	M/F	M/F	M/F	M/F	M	F	M/F	M	F	M	F	M/F	M	M/F	M	F	M	M/F	M	M/F	M/F
Office Admin	−.10	−.79	2.00	ns	2.18	1.78	ns	3.01	5.75	1.35	.34	.00	.44	−.32	−1.54	ns	1.12	ns	ns	ns	3.13	2.33	4.95	−.99
Electronics	2.55	2.38	−1.23	ns	.21	−.58	ns	.61	−1.07	−.71	−.36	−2.14	.92	.62	.87	ns	3.43	ns	ns	ns	.75	−2.33	−.74	1.17
Hvy Construction	−1.01	.55	1.21	ns	.78	2.01	ns	.27	−2.69	1.21	.97	4.61	.98	4.87	.20	ns	2.91	ns	ns	ns	2.93	−1.82	1.21	1.89
Science	−.42	−1.61	3.71	ns	1.60	1.21	ns	−.40	−1.30	−.24	.75	.84	−1.60	−2.18	.72	ns	−.90	ns	ns	ns	−1.02	−.44	2.92	1.06
Outdoors	−2.15	−2.31	8.18	ns	−.99	6.36	ns	.68	−1.32	−.89	2.11	−1.71	4.46	−12.90	2.00	ns	.25	ns	ns	ns	−.69	−.44	1.03	−.15
Medical Svc	−1.48	−1.65	−2.87	ns	3.20	2.98	ns	.68	−1.64	−1.31	.10	−2.02	−2.07	−4.44	−1.58	ns	2.01	ns	ns	ns	−.31	−2.50	−2.03	−4.32
Aesthetics	−2.70	.46	−3.29	ns	−.07	−.84	ns	−.60	.78	−.45	−1.72	−2.15	1.06	8.65	−1.01	ns	.91	ns	ns	ns	1.35	−1.70	−2.36	−.76
Mechanics	−.37	−2.05	−.65	ns	.17	1.63	ns	.96	3.39	.39	2.77	5.23	3.94	2.88	2.72	ns	2.50	ns	ns	ns	−1.32	2.08	−2.16	−3.17
Food Svc	1.42	2.20	−2.81	ns	1.94	1.41	ns	1.73	.00	1.17	1.79	−2.79	−.04	−7.69	1.08	ns	2.09	ns	ns	ns	2.25	3.53	1.39	6.21
Law Enforcement	2.42	−1.50	2.81	ns	.24	−1.30	ns	−.48	−2.31	−.21	2.56	2.00	2.55	6.34	1.49	ns	−1.27	ns	ns	ns	.73	4.65	7.84	4.64
Audiographics	−.31	−3.45	−.24	ns	.61	−6.71	ns	−1.66	−4.15	−2.10	−1.87	.00	1.52	−14.20	−4.11	ns	−1.37	ns	ns	ns	.31	−3.62	−1.05	−.77
Mathematics	.79	2.77	−.77	ns	−1.14	−.61	ns	−2.87	.09	0.00	−1.03	.14	−1.80	−3.75	.33	ns	0.00	ns	ns	ns	−1.87	.17	−.98	−2.46
Agriculture	1.62	3.36	−2.38	ns	.99	−4.47	ns	−2.32	3.09	−1.19	−.79	2.36	−2.16	4.92	4.69	ns	.37	ns	ns	ns	.14	3.25	2.26	1.19
Teacher/Counsel	−.09	−1.19	3.15	ns	−3.73	.92	ns	2.73	−.68	1.55	−1.07	−1.05	−1.56	.25	−.24	ns	−4.47	ns	ns	ns	1.16	.00	−.45	2.21
Marksman	2.86	5.11	−5.67	ns	1.03	−6.41	ns	−1.93	−1.71	−.83	−3.23	3.86	−6.42	10.69	−1.60	ns	−1.83	ns	ns	ns	.45	6.86	−.91	3.42
Craftsman	.25	−1.14	5.70	ns	−4.44	−8.78	ns	−2.85	4.23	4.04	−5.51	−3.89	−2.46	−10.46	−10.11	ns	−7.25	ns	ns	ns	−7.71	−3.32	−8.10	−4.05
Drafting	1.93	−.28	3.42	ns	−5.98	5.70	ns	−2.04	1.25	−4.39	−1.83	−.68	1.04	4.37	.79	ns	−3.77	ns	ns	ns	−2.71	−.49	−4.67	−1.16
Automated Data Proc	1.94	5.10	−7.12	ns	−2.28	−.10	ns	−.79	−2.41	4.68	2.41	−.64	−1.37	4.15	4.98	ns	−1.33	ns	ns	ns	−2.22	−2.84	−6.40	0.00
Constant	516.29	532.15	384.11	545.50	512.90	529.79	650.00	537.98	568.57	592 49	435.69	442.60	464.23	888.23	343.86	433.73	433.62	644.77	530.23	653.09	372.25	324.65	392.22	375.50

[ns]Non-significant.

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